

Abstract

To provide a fuel cell cogeneration system which can achieve high electricity generation efficiency, high waste heat recovery efficiency and a high system operation rate. A fuel cell cogeneration system comprises: a reforming device 7 for reforming raw material fuel 2 to generate reformat 3; a humidifying device 70 for humidifying oxidant gas 61 with recovered water 42 recovered from the reformat; a fuel cell 20 for generating electricity through an electrochemical reaction between the reformat and the oxidant gas, where anode off gas 21 and cathode off gas 22 are generated; and a hot water storage device 120 for storing recovered heat recovered from cooling water 24 used to cool the fuel cell 20, wherein the reforming device takes in and combusts the anode off gas to generate combusted exhaust gas 6, and wherein there is further provided a control device 122 for performing control to use heated gas composed of either the combusted exhaust gas or the cathode off gas as a heat source for the humidifying device when the temperature of the hot water storage device is lower than a predetermined value and to use the cooling water as the heat source when the temperature of the hot water storage device is higher than the predetermined value.